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AMSAT NEWS SERVICE
ANS-363

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

* FUNcube-1: One Month in Space
* CQ to Realign Publications, Launch New CQ Plus Digital Supplement
* Updated Dashboard Software now available for FUNcube
* FUNcube-1 High Resolution Graphs Available
* Popular Magazine Reports
* ISS ham video commissioning
* HamRadioNow: Low Cost Mobile APRS
* AMSAT-UK Announces Availability of the G0MRF 144 MHz Pre-amp Kit
* New Ham Radio Educational Video
* Star Comm Amateur Satellite Group Announces New "Got Grids? Award"
* Changes to FUNcube Data Warehouse Upload
* ARISS News
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-363.01
ANS-363 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 363.01
>From AMSAT HQ SILVER SPRING, MD.
DATE December 29, 2013
To All RADIO AMATEURS
BID: $ANS-363.01

FUNcube-1: One Month in Space

The FUNcube-1 (AO-73) spacecraft has now been in orbit and fully operational for one month.

We are very happy and VERY grateful to all the stations who have committed their time and effort into regularly receiving the telemetry and uploading it to our Data Warehouse. We really want to say a BIG THANK YOU and please keep it coming.

Dave G4DPZ is still busy refining the operation of the Warehouse and is promising more features over the next few days/weeks. Further updates to the Dashboard are also expected soon.

If anyone knows of potential additional stations that could be established in some of the remoter parts of the globe we would be grateful to have your ideas and introductions. “Simple” stations with omnidirectional antennas, dongles and internet connected laptops would be all that is needed.

We intend to keep the present operating schedule in place for the time being whilst various on board parameters continue to be characterized by the team.

The present low internal temperatures being experienced by the spacecraft, at least in the northern hemisphere, are causing some frequency shifting to take place – especially on the uplink frequencies – roll on summer!

We are not yet 100% certain that Object 2013-066AE is FUNcube-1 but it is looking the most likely candidate.

As the launch was more than 30 days ago, the record for this object has now moved to the
http://celestrak.com/NORAD/elements/cubesat.txt
file and the object is now referred to as DNEPR OBJECT AE.

The page has been updated to match.
http://funcube.org.uk/working-documents/latest-two-line-elements/

[ANS thanks AMSAT-UK and the FUNCube Team for the above information]

CQ to Realign Publications, Launch New CQ Plus Digital Supplement

Hicksville, NY (December 23, 2013) -- CQ Communications, Inc. today announced plans to realign its roster of publications and to launch an exciting new online supplement to its flagship magazine, CQ Amateur Radio.

"The hobby radio market is changing," said CQ Communications President and Publisher Dick Ross, K2MGA, "and we are changing what we do and how we do it in order to continue providing leadership to all segments of the radio hobby." CQ Communications is currently the only publisher in the United States serving the broad radio hobby, from broadcast band DXing to amateur radio moonbounce and satellite communications. CQ itself has been amateur radio's leading independent voice for seven decades.

Effective with the February 2014 issue of CQ, said Ross, content from the magazine's three sister publications, Popular Communications, CQ VHF and WorldRadio Online, will be incorporated into CQ's digital edition as a supplement to be called "CQ Plus." With this change, hobby radio enthusiasts of all types will be able to go to a single source - CQ - for articles on the broader aspects of hobby radio, from shortwave listening and scanner monitoring to personal two-way services and Internet radio, as well as amateur radio. Richard Fisher, KI6SN, currently Editor of both Popular Communications and WorldRadio Online, will be Editor of CQ Plus.

"Our primary audience is ham radio operators," explained Ross, "but very few hams began their radio involvement as amateurs. Most of us started out as shortwave listeners, broadcast band DXers, CBers or scanning enthusiasts. Many continue to be involved in many different aspects of the radio hobby in addition to amateur radio."

"By consolidating four specialized publications into one," Ross continued, "we will be better able to keep these multidimensional readers informed on all aspects of the radio hobby while simultaneously exposing those who are not hams to all the excitement and opportunities that amateur radio has to offer. We see this as a win-win for all of our readers and our advertisers, who will now be able to reach a wider and more diverse audience."

The expanded material will be an integral part of the digital edition of CQ, and will be included as part of a standard digital subscription. Each month's digital edition will simply continue beyond where the print edition ends, offering supplemental material on all aspects of hobby radio communication and will include selected columns carried over from the other magazines. The added digital content will make full use of the multimedia opportunities presented by digital publications.

Current subscriptions to Popular Communications, CQ VHF and WorldRadio Online will be converted to CQ subscriptions - and receive CQ Plus at no additional charge! Details will be posted on each magazine website.

There's no need to wait to see the great variety of articles that will be featured each month in the new CQand CQ Plus. A preview of the February issue's Table of Contents is available right now on the CQ website at http://bit.ly/19mzbOK

[ANS thanks Richard A. Ross K2MGA for the above information]

Updated Dashboard Software now available for FUNcube

The FUNcube Team are pleased to announce the latest version of the Dashboard Software.

Version 814 can be downloaded from http://funcube.org.uk/working-documents/funcube-telemetry-dashboard/

We thank everyone for their interest and reports of the success of FUNcube-1 (AO-73) and we look forward to continued operations.

Wishing you all a very Happy Christmas

[ANS thanks AMSAT-UK and the FUNCube Team for the above information]

FUNcube-1 High Resolution Graphs Available

There is now a facility to view the latest FUNcube-1 (AO-73) High Resolution Data uploaded to the Data Warehouse. The link can be found in the Navigation Bar on the warehouse.

Following on from this will be making Hi-Res data available to download via .csv files, in a similar way we do for Whole Orbit Data. Watch this space.

Dashboard App – Telemetry Decoder

http://funcube.org.uk/working-documents/funcube-telemetry-dashboard/

Data Warehouse – Telemetry Archive
https://warehouse.funcube.org.uk/

Satellite Tracking Apps
http://amsat-uk.org/beginners/satellite-tracking/

[ANS thanks AMSAT-UK and the FUNCube Team for the above information]

Popular Magazine Reports

+ World Radio Online December 2013

Terry Doud's N8KI Amateur Satellites Department article covers Digital ATV aboard the ISS, as well as SSTV. Other tidbits include getting off center on the transponder satllites, FUNCube and finding your Satellite MoJo. He ends his article with a thank you to the "tireless editors of the AMSAT News Service". On behalf of Lee, Joe and myself, you are welcome, Terry.

+ CQ December 2013

This is CQ's Technology Issue edition. VHF Plus Department covers "lunar Dust Experiment Under Way." It also reports on Three Satellites of Amateur Radio Interest Launche from Vandenberg AFB September 29. Other articles of interest are two on Maker's Fairs and in their Technology Special "Inexpensive Four-Wire Measurments for the Radio Amateur by Gary Geissinger WA0SPM/AAR8GI om measuring high currents and low resistance without a fancy (and expensive) instrument.

+ QST January 2014

Read WRAPS: A Portable Satellite Antanna Rotator System by Mark Spencer WA8SME (page 43). Mark presented on WRAPS at the Symposium this past November. See W7LRD's "Antenna for the Birds on page 20. Also find hints on surface mount soldering (pg 67), using modern SDR tools to boost you weak signal work (pg 65).

[ANS thanks the respective Publications for the above information]

ISS ham video commissioning

As announced August 21, 2013 the Ham Video transmitter is onboard the International Space Station and stored in the Columbus module.

September 10, 2013 we informed about the Experiment Sequences Test (EST) and the Simulations performed by the European Space Agency in collaboration with ARISS.

September 20, 2013 we announced the Ham Video Launch Campaign and described a simple station for Ham Video reception.

The Commissioning of the Ham Video transmitter needs to cover different configurations involving 2 antennas, 4 frequencies and 2

symbol rates. As announced earlier, the signals transmitted during the Commissioning steps will be received by the Matera ground station, located in south Italy (see HamTV Bulletin #2).

Moreover, during the Commissioning period, the Ham Video transmitter will transmit permanently for several days (weeks). This will allow ground stations to test their equipment and to provide useful information concerning the efficiency of the transmitter.

For these transmissions, no camera will be used. The so-called “blank” transmissions will nevertheless provide a complete DVB-S signal, as described hereafter.

We hoped that the Commissioning of the Ham Video transmitter would be planned October 2013. It appeared that the “Flight Rules” regarding ARISS activities, which cover VHF and UHF transmissions, needed to be updated for S-band. Writing Flight Rules and having them verified, accepted and signed by all parties involved is a process that takes time. ARISS matters have low priority among the countless activities that populate the International Space Station. Unforeseen events, such as the recent failing of a cooling system, evidently cause further delay.

Finally, the January - February 2014 time frame seems a reasonable guess for the Ham Video Commissioning.

HamTV Bulletins are available at www.ariss-eu.org
See left side column : HamTV Bulletin 4 (with annexes)

[ANS thanks Gaston Bertels, ON4WF, ARISS-Europe chairman and Southgate ARN for the above information]

HamRadioNow: Low Cost Mobile APRS

Episode 114 of HamRadioNow covers the Raspberry Pi Applications in Digital Communications presentation given at the TAPR-ARRL Digital Communications Conference

>From the ARRL and TAPR 2013 DCC. John Hansen W2FS brings something interesting every year. This year he built an APRS mobile complete with map display for $1. OK, a little more than that. But a lot less than, say, a Kenwood D710 with an AVMap (nice as that would be).

HamRadioNow Episode 114 from the DCC: RazPi + Xastir = APRS Mobile

Ham Radio Now http://HamRadioNow.tv/

APRS http://www.aprs.org/

[ANS thanks Southgate ARN for the above information]

AMSAT-UK Announces Availability of the G0MRF 144 MHz Pre-amp Kit

The G0MRF 144 MHz filtered pre-amp kitThe kit from AMSAT-UK contains all the parts and hardware necessary to build the G0MRF 2m filtered preamplifier. With all the nuts and washers and mounting hardware,

there are over 60 individual parts to this project.

The connectors supplied are a high quality PTFE insulated reduced flange Ntype for the connection to the antenna and a chassis mounted female BNC for the RF output to the receiver, this also carries the 5 V DC input from a FUNcube dongle or the DC supply from an external bias tee or radio.

Links to the Measurement Report and Construction Notes are posted on the AMSAT-UK web:
http://amsat-uk.org/info/g0mrf-144-mhz-pre-amp-kit/

Buy the 144 MHz pre-amp kit from the AMSAT-UK shop at
http://shop.amsat.org.uk/shop/category_11/G0MRF-Filtered-PreAmps.html

[ANS thanks AMSAT-UK for the above information]

New Ham Radio Educational Video

(This excellent video covers all aspects of amateur radio and also includes examples of amateur radio in space and ARISS. - Ed.)

Amateurs interested in spreading the good word about their hobby now have a new tool. A video entitled "Discovering Amateur radio" has just been released.

Written and narrated by David Anderson, K1AN, the production describes an extraordinary technology that in just 100 years has transformed our lives in, as Anderson says, "the most amazing ways."

Available in a condensed version as well as a half hour program, the well-paced video can be viewed on line or used in group presentations. The producers say it was created for anyone who wishes to encourage youths and adults to discover amateur radio.

The production is one of many educational programs administered under the auspices of
UNESCO, the United Nations Educational Scientific and Cultural Organization through partnership with the World Genesis Foundation. "Discovering Amateur Radio" is on the project website at www.radioqrv.com.

[ANS thanks Amateur Radio Newsline for the above information]

Star Comm Amateur Satellite Group Announces New "Got Grids? Award"

Effective January 1, 2014 your CW/SSB amateur satellite contacts can be used to earn the new Got Grids? award. To qualify you must log one contact in each of the 10 grid fields of the lower 48 United States: CN, CM, DN, DM, DL, EN, EM, EL, FN, FM. Only two-way contacts completed via a linear transponder satellite can be used for this award. This award will be effective January 1, 2014, all contacts must be made on or after this date.

Send your log to Rick Tillman, WA4NVM or Damon Runion, WA4HFN for checking, along with your call, name, and current mailing address

to either: wa4nvm(a)comcast.net or wa4hfn(a)comcast.net. This award is sponsored by the Star Comm Satellite Group so do not send your logs to AMSAT.

An example of the award certificate is available on-line at: http://www.starcommgroup.org, then check the awards tab.

This award is free. If you would like to make a donations to the AMSAT satellite program please send it to:
AMSAT, 850 Sligo Ave. Suite 600, Silver Spring. MD. 20910.

[ANS thanks Damon Runion, WA4HFN for the above information]

Changes to FUNcube Data Warehouse Upload

We are extremely grateful to all the groups and individuals who have uploaded FUNcube-1 (AO-73) data to the warehouse and the totals on the upload ranking page are quite amazing.

Since launch we have been monitoring the service which receives, processes and stores that data and now are about to make some changes to it to improve it performance and reliability.

The first change is to introduce an acceptance time window for packets uploaded from the Dashboard. This restricts packets to those whose sequence numbers are within +/- 48 hours of the latest sequence number stored in the Data Warehouse. We are doing this for two reasons:

We have received erroneous packets whose sequence numbers are significantly different to the latest value. To reduce the chance of double scoring of points when we release stored data back to the user community

The second change, which will not affect normal operation but will improve scoring:

We currently process packets immediately they arrive at the server. Under load, this can cause us to lose a few packet scores because of contention in the database. To alleviate this problem, we are going to change the processing slightly to process packets through a buffer. This buffer will be processed every 5 seconds, so there will be a slight delay before packets are acknowledged on the ranking.

73 Dave, G4DPZ

Dashboard App – Telemetry Decoder http://funcube.org.uk/working-documents/funcube-telemetry-dashboard/

[ANS thanks Dave, G4DPZ, AMSAT-UK, and the FUNCube Team for the above information]

ARISS News

+ A Successful contact was made between Scouting Burgemeester Welschen Meerhove, Eindhoven, The Netherlands and Astronaut Koichi

Wakata KC5ZTA using callsign OR4ISS. The contact began 2013-12-28 13:08:43 UTC and lasted about nine and a half minutes. Contact was direct via PE6SBW. ARISS Mentor was PE1KEH.

Scouting Meerhoven was set up in 2003. Their first official turnout was 10 years ago during the JOTA JOTI. During the last 10 years they have had several activities which were connected with transmitting (each year during the JOTA JOTI) and also with technic, air and space travel, as their scouts cabin is near Eindhoven airport.

Now, 10 years on, they celebrate our Jubilee. One of their Lustrum activities is the JOTA JOTI, by which they use FM frequency. For a whole weekend the scouting room was transformed to a real radio station. The broadcasts' are made by their youth and staff members.

In the framework of the Jubilee they made a request to NASA, to have radio contact with one of the astronauts from the ISS. They are very supportive of space travel and during the preparation period they engaged in a couple of activities to get ready for a contact with ISS.

The Friday evening group (cubs and scouts) visited an observatory, made rockets from lemonade bottles and fired them off. The room of the beavers was transformed to a cosmos with rockets and planets. The scouts made these themselves. The Saturday group (cubs and scouts) built an ISS station. During the past weeks their activities were all in the light of space travel. The groups goal was that the children will make their acquaintance with the JOTA JOTI (transmission) as well as space travel.

Upcoming ARISS Contact Schedule

Ritsumeikan Moriyama Junior High School, Moriyama, Japan, direct via 8N3RM Contact is a go for: Sun 2013-12-29 09:30:37 UTC

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

Satellite Shorts From All Over

+ ARISS has rolled out their new web presence...
http://www.ariss.org/
(Source Debra Johnson, K1DMJ, ARRL Education Services Manager)

+ EA, SPAIN (Satellites). Mark, N8MH, will be active as EA4/N8MH from Madrid (WW Loc. IN80) between December 24th and January 2nd, while on a family holiday. It is possible that he will be active on FO-29, VO-52, AO-73, SO-50, and AO-7 (?) satellites. He states," This is a very low priority part of the trip, and I can't predict when I'll be able to get on the air (limitations of being in the city with poor view to sky, etc.). But I am going to try at least a few passes one way or another! .... My station will be very simple--FT-817, Elk antenna, and a hand mic. Working half-duplex on the SSB birds will be very challenging for me! I am spoiled by fully automated station operations."
(Source Ohio/Penn DX Bulletin No. 1142)

+ Ham Radio Industry Changes

- DaySaver Power Systems is in merger with Elk Antennas. Elk will

continue to offer DaySaver Power Systems products. The merger enables Elk to expand its products for emergency communications and remote or portable operating.

- DX Engineering is now the sole distributir of Hi-Z Antenna Products.

- Small Wonder Labs, a QRP kit-maker has ceased operation.
(Source CQ magazine December 2013)

+Request for Announcements and Articles

Are you putting on a Demo, Representating AMSAT at a Hamfest or Convention, Reaching out to Schools, Scouts Youth Groups, Putting on a satellite related Special Events Station, Supporting a Kid's Day Event? PLEASE, LET US KNOW.

ANS will be glad to promote your efforts in advance and to report your successes after the fact. To meet our publication deadline, in a timely fashion, please forward your announcements at least 10 days in advance of your event. Typically before the Thursday before the Sunday we
publish - the week before your event.

Forward your announcement and reports to
ans-editor at amsat dot org
(Source, The ANS Editors)

+ AMSAT Coordinator for Georgia, John Kludt, K4SQC, will be representing AMSAT at TechFest in Lawrenceville GA on Saturday, January 11, 2014. Make sure you stop by, or even better, contact John and offer to lend a hand.
(Source John K4SQC)

+ SkySat-1 satellite sends first HD video

Skybox Imaging was founded in 2009 by radio amateur Julian Mann KI6OSO along with Ching-Yu Hu, Dan Berkenstock and John Fenwick.

Many of the Skybox Imaging executives worked on CubeSat projects while students at Stanford University under Professor Bob Twiggs KE6QMD.

SkySat-1, the first in a planned constellation of 24 microsatellites, was launched on a Dnepr from Dombarovsky near Yasny on November 21, 2013. It is believed to be the smallest satellite ever flown that is capable of capturing imagery at better than 1 meter resolution and the 1080p HD camera can capture up to 90 second video clips at 30 frames per second.
See a preview at http://www.firstimagery.skybox.com/

Skybox Imaging http://www.skyboximaging.com/
(Source AMSAT-UK)

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive addi-tional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org